

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
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**PCT**

REC'D 08 APR 2005

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## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference <b>S0031/7000WO</b>		Date of mailing (day/month/year) <b>06 APR 2005</b> <b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/US04/29139</b>	International filing date (day/month/year) <b>08 September 2004 (08.09.2004)</b>	Priority date (day/month/year) <b>09 September 2003 (09.09.2003)</b>
International Patent Classification (IPC) or both national classification and IPC <b>IPC(7): H04J 3/16, 3/22, 3/24 and US Cl.: 370/466,474</b>		
Applicant <b>SONUS NETWORKS, INC.</b>		

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer  Chirag Shah Telephone No. 571-272-3144
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Form PCT/ISA/237 (cover sheet) (January 2004)

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/29139

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US04/29139

**Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 1-41	YES
	Claims NONE	NO
Inventive step (IS)	Claims 1-41	YES
	Claims NONE	NO
Industrial applicability (IA)	Claims 1-41	YES
	Claims NONE	NO

**2. Citations and explanations:**

Claims 1-14 and 16-18 the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest constructing a data packet in memory, the data packet including at least one synchronization tag identifying the synchronization interval, a plurality of subpackets, and the respective memory context information associated with each of the subpackets in combination with other limitations set forth in the respective claims.

Claim 15 the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest constructing a data packet from a plurality of subpackets each derived from one of the synchronous serial data streams and a respective memory context associated with each subpacket and routing the packet through the asynchronous switch to one of the asynchronous network interface and the synchronous network interface in combination with other limitations set forth in the respective claim.

Claims 19 and 20 the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest extracting the subpackets from the packet and storing the subpackets in a plurality of buffers, each of the buffers associated with a destination time slot, the arrangement of subpackets within the buffers being determined by the first synchronization interval during which the subpacket was generated plus a fixed delay offset in combination with other limitations set forth in the respective claims.

Claims 21-33 the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest reconvert or reformatting the subpackets into synchronous data streams during a second synchronization interval having a fixed delay offset relation to the first synchronization interval in combination with other limitations set forth in the respective claims.

Claims 34-40 the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest a source of synchronous clock signals coupled to each of the circuit server modules, the synchronous clock signals defining a plurality of synchronization intervals, wherein the circuit server modules perform synchronous time slot switching of synchronous data across the asynchronous switch in combination with other limitations set forth in the respective claims.

Claim 41 the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest data structure comprising a plurality of subpackets associated with a source time slot and containing parallel data derived from a synchronous serial data stream, each subpacket constructed during a common synchronization interval having a synchronization tag in combination with other limitations set forth in the claim.